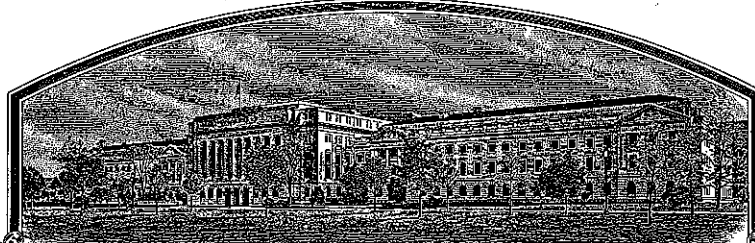


No.

200400272



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Hybas Vegetable Seed Co. Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REFRESHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

LETTUCE

'Casino'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this eleventh day of December, in the year two thousand and six.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER Pybas Vegetable Seed Co. Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME PYB 8741	3. VARIETY NAME Casino
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 2320 Thompson Way, Unit H Santa Maria, CA 93455		5. TELEPHONE (include area code) 805-922-4624	<div style="border: 1px solid black; padding: 2px;">FOR OFFICIAL USE ONLY</div> PVPO NUMBER 20 0400272
6. FAX (include area code) 805-928-0293		FILING DATE July 12, 2004	
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Corporation	8. IF INCORPORATED, GIVE STATE OF INCORPORATION California	9. DATE OF INCORPORATION 12-16-83	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Pybas Vegetable Seed Co. 2320 Thompson Way, Unit H P.O. Box 868 Santa Maria, CA 93456			<div style="border: 1px solid black; padding: 2px;">FILING AND EXAMINATION FEES:</div> \$ 3652- DATE 7/12/04 <div style="border: 1px solid black; padding: 2px;">CERTIFICATION FEE:</div> \$ 768 ⁰⁰ DATE 10/10/2006
11. TELEPHONE (Include area code) 805-922-4624	12. FAX (include area code) 805-928-0293	13. E-MAIL Keith_Trammell@hotmail.com	14. CROP KIND (Common Name) Lettuce
15. GENUS AND SPECIES NAME OF CROP Lactuca sativa		16. FAMILY NAME (Botanical) Asteraceae	17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,705), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)			
19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no", go to item 22)		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED NUMBER 1,2,3, etc. (If additional explanation is necessary, please use the space indicated on the reverse.)		22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)	
23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.	
SIGNATURE OF OWNER Robert E. Pybas		SIGNATURE OF OWNER 	
NAME (Please print or type) Robert E. Pybas		NAME (Please print or type) 	
CAPACITY OR TITLE President	DATE 7-8-04	CAPACITY OR TITLE 	DATE 1

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,705 (\$320 filing fee and \$2,385 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvp.htm>

20 0400272

ITEM

- 18a. Give:
- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
 - (2) the details of subsequent stages of selection and multiplication;
 - (3) evidence of uniformity and stability; and
 - (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See *Regulations and Rules of Practice, Section 97.103*).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

Date of first sale: 7-24-03. USA. We market our seed exclusively through our dealer network and as such have no direct knowledge of the marketing of crops of 'Casino'.

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

USDA-AMS-PVPO
RECEIVED

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705. Telephone: (301) 504-8089. <http://www.ams.usda.gov/lsg/seed/lsg-sd.htm>

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

S&T-470 (04-01) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (02-99) which is obsolete.

EXHIBIT A

Origin and Breeding History
of the Variety 'Casino' (PYB 8741)

'Casino' (PYB 8741) was developed using the pedigree breeding method. It originates from a cross made in the summer of 1995 between the Big Vein resistant variety, Del Rey as the female parent and the downy mildew resistant variety, El Dorado as the male. The F1 seed was planted to our greenhouse in September of 1995, and F2 seed was harvested in the spring of 1996.

The F2's were planted to a trial in Lompoc, California in April, 1996. The trial was under heavy downy mildew pressure. Three plants which were completely free of any downy mildew lesions were selected and transplanted to our greenhouse. F3 seed was harvested from these plants in the summer of 1996.

The F3's were planted two years later in early spring in Lompoc in 1998. The trial at this location was severely infected with Big Vein. One of the F3's showed good resistance to Big Vein with only 9% of its plants showing symptoms, while a susceptible variety, Pybas 251, was 100% symptomatic. This resistant line was also planted in the San Joaquin Valley that summer, and from it five of the slowest bolting plants were selected. F4 seed was harvested off these selections in September that year.

The F4's were planted in January for an early spring trial in 1999 in Santa Maria and also later that spring in the San Joaquin Valley. F5 seed was harvested from five plants of one of these lines in the San Joaquin trial on the basis of its superior performance in the Santa Maria trial.

That winter the five F5 lots were submitted for downy mildew testing against CA V pathotype. Three of the five tested homozygous resistant. These three downy mildew resistant F5's were planted to a trial in March 2000 in Santa Maria and in May in the San Joaquin. F6 seed was harvested from five plants of the slowest bolting of the three lines in the San Joaquin. This line was noted as being very uniform in the coastal trial that year.

The following year, 2001, the F6's were planted again both on the California coast and in the Interior valley. In the coastal trial there was very good uniformity between and within all of the F6 lines and based on these results, seed from the same lines were bulked together in the San Joaquin Valley (F7B). We assigned the experimental designation PYB 8741 to the line and this lot was used in product development trials in 2001 and 2002 with excellent ratings for uniformity. It was also used as stock seed for a large scale field increase (F8B) in 2002, which was trailed in 2003 and found once again to be highly uniform.

PYB 8741 has been stable and uniform in the last four generations of its development during which no variants or off types have been observed.

PYB 8741 was named 'Casino' mid year in 2003, and its first commercial sale was on 7-24-03.

EXHIBIT B

Statement of Distinctness for the
Lettuce Variety 'Casino'

'Casino' is most similar to its' female parent 'Del Rey', however, 'Casino' contains the gene Dm18 and is resistant to lettuce downy mildew (Bremia lactucae) California pathotypes I, IIA, IIB, III, IV, VA, and VB whereas 'Del Rey' does not contain Dm18 and is resistant only to California pathotype III.

'Casino' also varies from 'Del Rey' in that it has a significantly smaller frame diameter, (47 cm. Vs 49 cm.), its' head weight is greater, (742 gms. Vs 649 gms.), and its' core diameter at the base is greater, (32 mm. Vs 30 mm). The values reported here are the means of trials 1 and 2.

'Casino' is about 3 days earlier in maturity than 'Del Rey'.

In comparison of the mature seed plants, 'Casino' is taller, (124 cm. Vs. 109 cm.) and has a narrower mature seed head, (42 cm. Vs. 46 cm.).

OBJECTIVE DESCRIPTION OF VARIETY
LETTUCE *Lactuca sativa*

NAME OF APPLICANT (S) Pybas Vegetable Seed Co, Inc.	FOR OFFICIAL USE ONLY PVPO NUMBER <div style="font-size: 1.5em; font-weight: bold;">20 0400272</div>
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code) 2320 Thompson Way, Unit H Santa Maria, CA 93455	VARIETY NAME EXPERIMENTAL DESIGNATION

Place numbers in the boxes for the characters which best describe this variety. Measured data should be the mean of an appropriate number (at least 10) of well spaced plants. Royal Horticultural Society or any recognized color standard may be used to determine plant colors.

The location of the test area is: Santa Maria, California	Color System Used: Royal Hort. Soc. Color standard
---	--

1. PLANT TYPE: (See list of suggested check varieties page 4.)

<div style="border: 1px solid black; padding: 2px;">06</div>	01=Cutting/Leaf 02=Butterhead 03=Bibb 04=Cos or Romaine	05=Great Lakes Group 06=Vanguard Group 07=Imperial Group 08=Eastern (Ithaca) Group	09=Stem 10=Latin 11=OTHER
--	--	---	---------------------------------

2. SEED:

COLOR <div style="border: 1px solid black; padding: 2px;">2</div> 1=White (Silver Gray) 2=Black (Gray Brown) 3=Brown (Amber)	LIGHT DORMANCY <div style="border: 1px solid black; padding: 2px;">2</div> 1=Light Required 2=Light Not Required	HEAT DORMANCY <div style="border: 1px solid black; padding: 2px;">1</div> 1=Susceptible 2=Not Susceptible
---	--	---

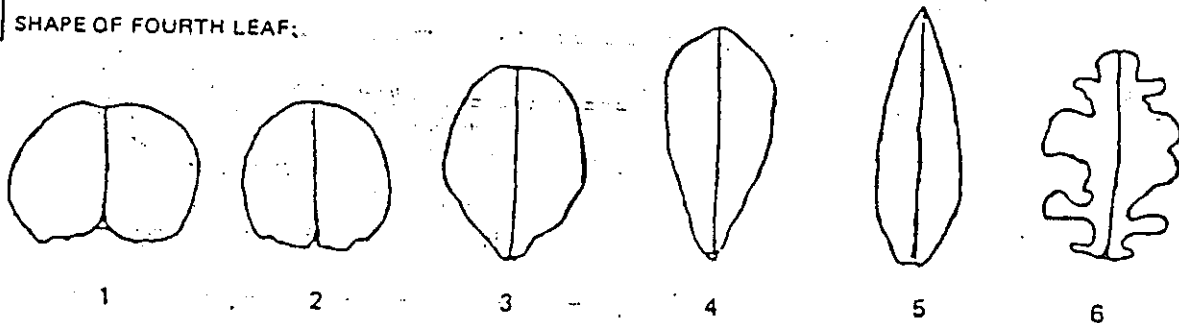
3. COTYLEDON TO FOURTH LEAF STAGE: NOTE: Provide a color photograph or photocopy of the fourth leaf from 20 day old seedling grown under optimal conditions.

2

 SHAPE OF COTYLEDONS: 1=Broad 2=Intermediate 3=Spatulate

3

 SHAPE OF FOURTH LEAF:



12

 LENGTH/WIDTH INDEX OF FOURTH LEAF: L/W x 10

<div style="border: 1px solid black; padding: 2px;">4</div>	APICAL MARGIN:	1=Entire 2=Crenate/Gnawed 3=Finely Dentate	4=Moderately Dentate 5=Coarsely Dentate 6=Incised	7=Lobed 8=OTHER (specify)
<div style="border: 1px solid black; padding: 2px;">3</div>	BASAL MARGIN:			
<div style="border: 1px solid black; padding: 2px;">1</div>	UNDULATION:	1=Flat	2=Slight	3=Medium 4=Marked
<div style="border: 1px solid black; padding: 2px;">3</div>	GREEN COLOR:	1=Yellow Green 2=Light Green	3=Medium Green 4=Dark Green	5=Blue Green 6=Silver Green 7=Gray Green
	ANTHOCYANIN:			
<div style="border: 1px solid black; padding: 2px;">1</div>	DISTRIBUTION:	1=Absent 2=Margin Only	3=Spotted 4=Throughout	5=OTHER (specify)
<div style="border: 1px solid black; padding: 2px;"></div>	CONCENTRATION:	1=Light	2=Moderate	3=Intense
<div style="border: 1px solid black; padding: 2px;">1</div>	ROLLING:	1=Absent	2=Present	
<div style="border: 1px solid black; padding: 2px;">1</div>	CUPPING:	1=Uncupped	2=Slight	3=Markedly
<div style="border: 1px solid black; padding: 2px;">1</div>	REFLEXING:	1=None	2=Apical Margin	3=Lateral Margins

10

4. MATURE LEAVES (observe harvest-mature outer leaves):

NOTE: Provide color photo of harvest-mature leaves which accurately shows color and margin characteristics.

20 0400272

MARGIN:

1	INCISION DEPTH: (deepest penetration of the margin)	1=Absent/Shallow (Dark Green Boston)	2=Moderate (Vanguard)	3=Deep (Great Lakes 659)
1	INDENTATION: (finest divisions of the margin)	1=Entire (Dark Green Boston)	3=Deeply Dentate (Great Lakes 659)	5=OTHER (specify)
		2=Shallowly Dentate (Great Lakes 65)	4=Crenate (Vanguard)	
2	UNDULATION OF THE APICAL MARGIN:	1=Absent/Slight (Dark Green Boston)	2=Moderate (Vanguard)	3=Strong (Great Lakes 659)
3	GREEN COLOR:	1=Very Light Green (Bibb)	3=Medium Green (Great Lakes)	5=Very Dark Green
		2=Light Green (Minetto)	4=Dark Green (Vanguard)	6=OTHER
ANTHOCYANIN (grown at or below 10 C):				
1	DISTRIBUTION:	1=Absent	3=Spotted (Calif. Cream Butter)	5=OTHER (specify)
		2=Margin Only (Big Boston)	4=Throughout (Prize Head)	
	CONCENTRATION:	1=Light (Iceberg)	2=Moderate (Prize Head)	3=Intense (Ruby)
2	SIZE:	1=Small	2=Medium	3=Large
1	GLOSSINESS:	1=Dull (Vanguard)	2=Moderate (Salinas)	3=Glossy (Great Lakes)
2	BLISTERING:	1=Absent/Slight (Salinas)	2=Moderate (Vanguard)	3=Strong (Prize Head)
3	LEAF THICKNESS:	1=Thin	2=Intermediate	3=Thick
1	TRICHOMES:	1=Absent (smooth)	2=Present (spiny)	

5. PLANT (at market stage. Choose a comparison variety appropriate for this type.):

SPREAD OF FRAME LEAVES: 49 cm This Variety 49 cm Del Rey (specify comparison variety)

HEAD DIAMETER (market trimmed with single cap leaf):
cm This Variety 14 cm Del Rey (specify comparison variety)

HEAD SHAPE: 1=Flattened 2=Slightly Flattened 3=Spherical 4=Elongate 5=Non-Heading 6=OTHER

HEAD SIZE CLASS: 1=Small 2=Medium 3=Large

HEAD COUNT PER CARTON 24

HEAD WEIGHT: 742 g This Variety 649 g Del Rey (specify comparison variety)

HEAD FIRMNESS: 1=Loose 2=Moderate 3=Firm 4=Very Firm

6. BUTT (bottom of market-trimmed head):

SHAPE: 1=Slightly Concave 2=Flat 3=Rounded

MIDRIB: 1=Flattened (Salinas) 2=Moderately Raised 3=Prominently Raised (Great Lakes 659)

7. CORE (stem of market-trimmed head):

32 mm Diameter at base of head

Ratio of head diameter/core diameter 4.5

Core height from base of head to apex: 29 mm This Variety 27 mm Del Rey (specify comparison variety)

8. BOLTING (Give First Water Date 4-29): NOTE: First Water Date is the date seed first receives adequate moisture to germinate. This can and often does equal the planting date.

Number of days from First Water Date to seed stalk emergence (summer conditions):
This Variety 62 61 Del Rey (specify comparison variety)

BOLTING CLASS: 1=Very Slow 2=Slow 3=Medium 4=Rapid 5=Very Rapid

Height of mature seed stalk: 124 cm This Variety 109 cm Del Rey (specify comparison variety)

42

Spread of Bolter Plant (at widest point):

cm This Variety

46

cm

Del Rey

(specify comparison variety)

20 0400272

1

BOLTER LEAVES:

1=Straight

2=Curved

2

MARGIN:

1=Entire

2=Dentate

2

COLOR:

1=Light Green

2=Medium Green

3=Dark Green

BOLTER HABIT:

2

TERMINAL
INFLORESCENCE:

1=Absent

2=Present

2

LATERAL SHOOTS:
(above head)

1=Absent

2=Present

1

BASAL SIDE SHOOTS:

1=Absent

2=Present

9. MATURITY (earliness of harvest-mature head formation):

NOTE: Complete this section for at least one season.

SEASON	Applic. 1/ # of days	Check 2/ # of days	CHECK VARIETY 3/
Spring	77	80	Del Rey
Summer			
Fall			
Winter			

Give planting date(s), and location(s):

Spring Plant date 3-19-04, Harvest Date 6-7-04. Santa Maria, California

Summer

Fall

Winter

1/ First water date to harvest.

2/ Fill in check variety name on the appropriate line.

10. ADAPTATION:

PRIMARY REGIONS OF ADAPTION (tested and proven adapted):

(0=Not tested

1=Not Adapted

2=Adapted)

0

Southwest (Calif., Ariz. desert)

2

West Coast

0

Northeast

0

Northcentral

0

Southeast

0

OTHER

SEASON:

2

Spring (area West coast)

0

Fall (area)

0

Summer (area)

0

Winter (area)

0

GREENHOUSE:

0=Not tested

1=Not Adapted

2=Adapted

1

SOIL TYPE:

1=Mineral

2=Organic

3=Both

11. DISEASES AND STRESS REACTIONS (0=Not tested; 1=Susceptible; 2=Intermediate; 3=Resistant; 4=Highly resistant; 5=Tolerant):

VIRUS

- ☒ 3 Big Vein
☒ 1 Lettuce Mosaic
☐ 0 Cucumber Mosaic
☐ 0 Broad Bean Wilt
☐ 0 Turnip Mosaic
☐ 0 Beet Western Yellows
☐ 0 Lett. Infectious Yellows
☐ 0 Other Virus _____

FUNGAL/BACTERIAL

- ☒ 1 Corky Root Rot (Pythium Root Rot)
☒ 3 Downy Mildew (Races CA I A, II A, II B, III, IV, V A, V B, VI)
☐ 0 Powdery Mildew
☐ 0 Sclerotinia Rot
☐ 0 Bacterial Soft Rot (Pseudomonas spp. & others)
☐ 0 Botrytis (Gray Mold)
☐ 0 OTHER _____

INSECTS

- ☐ 0 Cabbage Loopers
☐ 0 Root Aphids
☐ 0 Green Peach Aphid
☐ 0 Other Insect _____

PHYSIOLOGICAL/STRESS

- ☒ 3 Tipburn
☐ 0 Heat
☐ 0 Drought
☐ 0 Cold
☐ 0 Salt
☐ 0 Brown Rib (Rib Discoloration, Rib Blight)
☐ 0 OTHER _____

POST HARVEST

- ☐ 0 Pink Rib
☐ 0 Russet Spotting
☐ 0 Rusty Brown Discoloration
☐ 0 Internal Rib Necrosis (Blackheart, Gray Rib, Gray Streak)
☐ 0 Brown Stain

12. BIOCHEMICAL OR ELECTROPHORETIC MARKERS:

13. COMMENTS:

SUGGESTED CHECK VARIETIES

- TYPE
 1) CUTTING/LEAF
 2) BUTTERHEAD
 3) BIBB
 4) COS, OR ROMAINE
 5) GREAT LAKES GROUP
 6) VANGUARD GROUP
 7) IMPERIAL GROUP
 8) EASTERN GROUP
 9) STEM
 10) LATIN

- CHECK VARIETY
 SALAD BOWL
 DARK GREEN BOSTON
 BIBB
 PARRIS ISLAND
 GREAT LAKES 659-700
 VANGUARD
 VIVA
 ITHACA
 CELTUCE
 MATCHLESS



Photocopy of the fourth leaf of several 20-day old seedlings of 'Casino' (PYB 8741)



Trial 1. Santa Maria, CA. Seeded: 3/11/2004, Evaluated: 5/27/2004.
 Completely Random Design. Sample size: 27 plants
 Student's t-Test : $t(\text{req'd})_{0.05} = 2.00, df=52$

<u>Frame Diameter</u>	<u>Casino</u>	<u>Del Rey</u>
Mean (cm)	46	49
Std. Dev.	2.00	2.00
Range	41-50	46-54
t Value = 4.88*		

<u>Head Trimmed WT</u>		
Mean (gms)	722	637
Std. Dev.	143	88
Range	548-1019	436-782
t Value = 2.65*		

<u>Head Diameter</u>		
Mean (cm)	15.3	14.7
Std. Dev.	0.7	0.9
Range	13.5-16.5	13.5-17
t Value = 2.68*		

<u>Core Diameter</u>		
Mean (mm)	29	27
Std. Dev.	3.00	2.00
Range	25-35	22-30
t Value = 2.76*		

<u>Core Height</u>		
Mean (mm)	26	24
Std. Dev.	4	5
Range	18-35	18-40
t Value = 1.86		

Trial 2. Santa Maria, CA. Seeded 3/19/2004, Evaluated : 6/10/2004
 Randomized Complete Block Design. Sample size: 12 plants
 ANOVA: $F(\text{req'd})0.05=10.13$

<u>Frame Diameter</u>	<u>Casino</u>	<u>Del Rey</u>
Mean (cm)	48	49
Std. Dev.	1.00	0.00
Range	43-53	45-53
F value = 49.0*		

<u>Head Trimmed WT.</u>		
Mean (gms)	762	661
Std. Dev.	32	64
Range	634-947	443-930
F Value=15.84*		

<u>Head Diameter</u>		
Mean (cm)	13.7	13.7
Std. Dev.	0.2	0.4
Range	12-16	11.5-16
F value =0.18		

<u>Core Diameter</u>		
Mean (mm)	34	33
Std. Dev.	1.00	1
Range	29-37	27-39
F value = 21.56*		

<u>Core Height</u>		
Mean (mm)	31	29
Std. Dev.	2.00	3.00
Range	26-40	14-37
F value = 2.76*		

Trial 3. Buttonwillow, CA. Seeded: 4/29/2003, Evaluated: 7/24/2003
Completely Random Design. Sample Size: 20 Plants
Student t-Test: $t(\text{req'd})_{.05}=2.02$, $df=38$

<u>Height Mature Seed Plant</u>	<u>Casino</u>	<u>Del Rey</u>
Mean (cm)	124	109
Std. Dev.	6.00	6.00
Range	117-138	100-119
t value = 7.73*		

<u>Width of Mature Seed Head</u>		
Mean (cm)	42	46
Std. Dev.	4.00	7.00
Range	35-48	35-56
t value = 2.54*		

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S) <i>Pybas Vegetable Seed Co. Inc.</i>	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER <i>PYB 8741</i>	3. VARIETY NAME <i>Casino</i>
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) <i>2320 Thompson Way, Unit H P.O. Box 868 Santa Maria, CA 93456</i>	5. TELEPHONE (Include area code) <i>805-922-4624</i>	6. FAX (Include area code) <i>805-928-0293</i>
7. PVPO NUMBER <i>20 0400272</i>		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain ☒ YES ☐ NO9. Is the applicant (individual or company) a U.S. National or a U.S. based company? If no, give name of country ☒ YES ☐ NO10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (If needed, use the reverse for extra space):

*'Casino' was developed by Keith Trammell, Plant Breeder for
Pybas Vegetable Seed Co.***PLEASE NOTE:**

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 6 minutes per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or familial status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5954 (voice and TDD). USDA is an equal opportunity provider and employer.